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RECENSION OF MEXICAN SPECIES OF *SALVIA* SECT. *STANDLEYANA* (LAMIACEAE)

BILLIE L. TURNER
Plant Resources Center
The University of Texas
Austin, TX 78712

ABSTRACT

Salvia sect. *Standleyana* (including sect. *Blakea*) is treated as having five species: *S. cacaliifolia* Benth., *S. patens* Cav., *S. subpatens* Epling, *S. vitifolia.* Benth. and **S. serboana** B.L. Turner, sp. nov. A photograph of the latter is provided, along with a key to the species and maps showing their distributions.

KEY WORDS: *Salvia*, sect. *Blakea*, sect. *Standleyana*, Mexico

Preoccupation with the identification of Mexican species of *Salvia* centering about sect. *Standleyana* has occasioned the present paper.

SALVIA sect. **STANDLEYANA** Epling, Repert. Spec. Nov. Regni Veg. Beih. 110: 93. 1939. **TYPE**: *Salvia cacaliifolia* Benth.

Salvia sect. *Blakea* Epling, Repert. Spec. Nov. Regni Veg. Beih. 110: 94. 1939. **TYPE**: *Salvia patens* Cav.

Perennial herbs to 40 cm high, the roots forming well-defined slender tubers. Stems pilose, glandular-pubescent or not. Leaves large, deltoid to sub-cordate. Spikes terminal, often branched near base. Flowers mostly 2 to a node. Floral bracts ovate to lanceolate, usually persistent. Calyces large, 2-lipped, the upper 3–5-nerved. Corollas large, blue, the lips large, often markedly so. Stamens attached near bottom of corolla. Stylar shafts terete and glabrous, the apex without well-defined branches.

Epling (1939) recognized the monotypic *Salvia* sect. *Standleyana* typified by *S. cacaliifolia*. Adjacent to this he recognized sect. *Blakea* with five species, typified by *S. patens*. He noted that "In the persistent bracts and entire style it [*S. cacaliifolia*] is similar to the latter [sect. *Blakea*]" and further that sect. *Standleyana* "is singular in the small lobe of the lower lip." Regardless, the species concerned are all very similar, and I have little hesitancy in treating them within a single sect. *Standleyana*.

KEY TO THE SPECIES

1. Upper lip of corolla 26-44 mm long; central Mexico ..... **Salvia patens**
1. Upper lip of corolla 10-25 mm long; southern Mexico and Guatemala. (2)

2. Mid-stem leaves sessile or nearly so, mostly ovate to elliptic-ovate, 2–3 times longer than broad ..... **Salvia subpatens**
2. Mid-stem leaves markedly petiolate, mostly deltoid, 1–2 times longer than broad. (3)

3. Leaf-blades narrowly deltoid, 1.2–2.0 times longer than broad; lower lip of corolla mostly 10–20 mm long ..... **Salvia cacaliifolia**
3. Leaf-blades moderately to broadly deltoid, mostly 0.7-1.2 times longer than broad; lower lip of corolla 20–25 mm long. (4)

4. Plants mostly 15–40 cm high; leaves mostly basal or nearly so, the blades longer than broad; calyx lobes mostly with very short, attenuate or setiform, weakly divergent, apices I mm long or less; Ver, Pue, Gue and Oax ..... **Salvia vitifolia**
4. Plants mostly 50–100 cm high; leaves not mostly basal, the blades mostly wider than long; calyx lobes attenuate, often circinate, the apices 1.5–4.0 mm long; ne Oax ..... **Salvia serboana**

SALVIA CACALIIFOLIA Benth. in DC., Prodr. 12: 348. 1848. Map 1. **TYPE: MEXICO. Oaxaca.** Near Pueblo Nuevo, pine forests, w/o date, *Linden 132* (holotype K, photo TEX!).
Salvia atriplicifolia Fernald, Proc. Amer. Acad. Arts 35: 553. 1900.
Salvia mendax Epling, Repert. Spec. Nov. Regni Veg. Beih. 110: 96. 1938.

Erect rhizomatous herbs 30–70 cm high, producing tuberous roots. Mid-stems densely glandular-pubescent, the vestiture 1.0–2.2 mm high. Leaves mostly 6–17 cm long, 5–10 cm wide; petioles 2–8 cm long; blades deltoid, 1.2–1.8 times as long as wide, moderately to densely pubescent above and below, the margins irregularly crenulo-dentate, occasionally with 1 or 2 obtuse lateral lobes. Inflorescence, a terminal bracteate raceme 10–20 cm long, usually a single branch, but occasionally with 3 or more basal branches. Flowers 2 to a node, the pedicels 5–10 mm long. Calyces (fruiting) 9–11 mm long, glandular-pubescent, the lobes 4–6 mm long with spinulose apices. Corollas deep blue, ca. 25 mm long; lower lip ca. 15 mm long; upper lip scarcely arcuate, 16–18 mm long; tubes 18–22 mm long. Nutlets ovoid, ca. 3.5 mm long, 2 mm wide.

Oaxaca, Chiapas, and Guatemala, pine-oak forests, 2000–2700 m; flowering all seasons.

Epling (1939) treated *Salvia cacaliifolia* as the sole member of his sect. *Standleyana*, largely on the basis of the shorter lower corolla lip. Standley and Williams (1973) treated *S. atriplicifolia, S. mendax*, and *S. hempsteadiana* as synonymous with *S. cacaliifolia*. I consider *S. hempsteadiana* a distinct species, readily distinguished from *S. cacaliifolia* by a number of characters, including corolla shape, calyx size, and stem vestiture, but since the taxon is absent from the Mexican flora, I have not included it in the present account. A typical flowering branch of *S. cacaliifolia* is shown in Fig. 1.

SALVIA PATENS Cav., Icones 5: 33, t. 454. 1799. Map 2. **TYPE: MEXICO. [Hidalgo.]** "Habitat in umbrosis prope Real del Monte in Nova Hispania. Floret Augusto," *Née s.n.* (holotype: MA).
Salvia decipiens Mart. & Gal., Bull. Acad. Roy. Sci. Bruxelles 11(2): 64. 1844.
Salvia grandiflora Nee ex Cav., Icon. 5: 33. 1799.
Salvia spectabilis Kunth, Nov. Gen. Sp. (quarto ed.) 2: 304. 1817 [1818].

Perennial erect herbs 30–90 cm high, the stems producing elongate slender tubers; easily recognized by its very large, deep blue corollas with very large lips. Leaves mostly deltoid, petiolate.

San Luis Potosí, Guanajuato, Querétaro, Hidalgo, Michoacan, Mexico, Veracruz, Puebla, Guerrero, and Oaxaca, dry forests, 2000–2600 m; flowering Jul–Oct.

SALVIA SERBOANA B.L. Turner, **sp. nov.** Fig. 1 Map 3. **TYPE: MEXICO. Oaxaca.** Mpio. Santiago Llano Grande: 2.5 km NE de Llano Grande, oak forests, ca. 2490 m, 17° 52′ 32″ N, 97° 31′ 26″ W, 7 Sep 1994, *Gustavo Ramirez S. 467* (holotype: TEX).

Salviae vitifoliae Benth. similis sed differt statura majore (40–100 cm altis vs 15–40 cm), foliis plerumque caulinibus, et lobis calycum circinatis 1.5–4.0 mm longis (vs. non circinatis 1.5 mm longis vel minoribus).

Perennial, tuberous herbs, 50–100 cm high. **Mid-stems**, moderately to densely, pilose, the vestiture 1.0–1.5 mm high, often with an array of much shorter, glandular hairs. **Leaves** 10–20 cm long, 6–16 cm wide; petioles 3–8 cm long; blades deltoid, triangular-hastate to sub-cordate, pubescent above and below, more so beneath, the margins irregularly lobed and minutely crenulate or serrulate. **Capitulescence** terminal, cymose-paniculate, bracteate, 10–30 cm long, 3–5 cm wide, the peduncles 5–10 cm long, pubescent like the stems. **Calyces** (flowering) mostly 10–15 mm long, sparsely glandular-pubescent, their apices slender, often circinate. **Corollas** blue, 2–3 cm long, the lower lip ca. 10 mm long, somewhat shorter than the upper. **Nutlets,** ovoid, tan, mottled, ca. 3 mm long, 2 mm wide.

Additional specimens examined: **MEXICO. Oaxaca. Distr. Ixtlan**: 11 km N of San Juan Analco, 26 Sep 1982, *Cedillo T. 1856* (TEX); marker 139, along highway 175, ca. 2300 m, 5 Aug 1990, *Jack & Sydor 140* (TEX). **Distr. Sola de Vega**: Cara de Leon, rumbo a Recibimiento, ca. 2231 m, 23 Aug 2006, *Salinas 322* (TEX); La Cueva, ca. 2148 m, 7 Sep 2006, *Marcos 467* (TEX). **Distr. Tlaxiaco**: ca. 20 road mi W of San Miguel El Grande, steep slopes of Cerro Piedra de Olla, ca. 2950 m, 3 Aug 1990, *Soule 2433* (TEX).

Salvia serboana is most closely related to *S. vitifolia*, differing by its taller habit, broader leaf-blades, and calyces with attenuate or circinate apices. The epithet is anagrammatic, derived from Sociedad para el Estudio de los Recursos Bioticos de Oaxaca, which provided funding for collection of the material studied here.

SALVIA SUBPATENS Epling, Repert. Spec. Nov. Regni Veg. Beih. 110: 97. 1939. Map. 3. **TYPE: MEXICO. Edo. Mexico.** Distr. Temascaltepec: Tejupilco, oak woods, 1340 m, 27 Jul 1933, *G.B. Hinton 4376* (holotype: UC; isotypes: Hinton herb. photo!, K).
Salvia viscidifolia Epling, Bull. Torrey Bot. Club 67: 517. 1940.

Resembling *Salvia patens* but the leaves essentially sessile and the flowers about half the size.

Michoacan, Mexico, and Guerrero, pine forests, 1200–2600 m; flowering Jul–Oct.

SALVIA VITIFOLIA Benth., Labiat. Gen. Sp., Suppl. 724. 1835. Map 4. **TYPE: MEXICO. Oaxaca**. In Mexico ad montem ad San Felipe prope Oaxaca, *Andrieux s.n.* (holotype: P-DC, "v. s. sp. in herb. DC.," as cited by Bentham).
Salvia proxima Mart. & Gal., Bull. Acad. Roy. Sci. Bruxelles 11(2): 62. 1844.

Much resembling *Salvia cacaliifolia* and distinguished by relatively few characters, as noted above in the key.

Veracruz, Puebla, Guerrero, and Oaxaca, pine-oak forests, 2000–2700 m; flowering Jul–Oct.

ACKNOWLEDGEMENTS

I am grateful to my colleague Guy Nesom for the Latin diagnosis and helpful comments on the manuscript and to Tom Wendt for providing the image of the holotype. Distribution maps are based upon specimens on file at TEX and those cited by Epling (1939).

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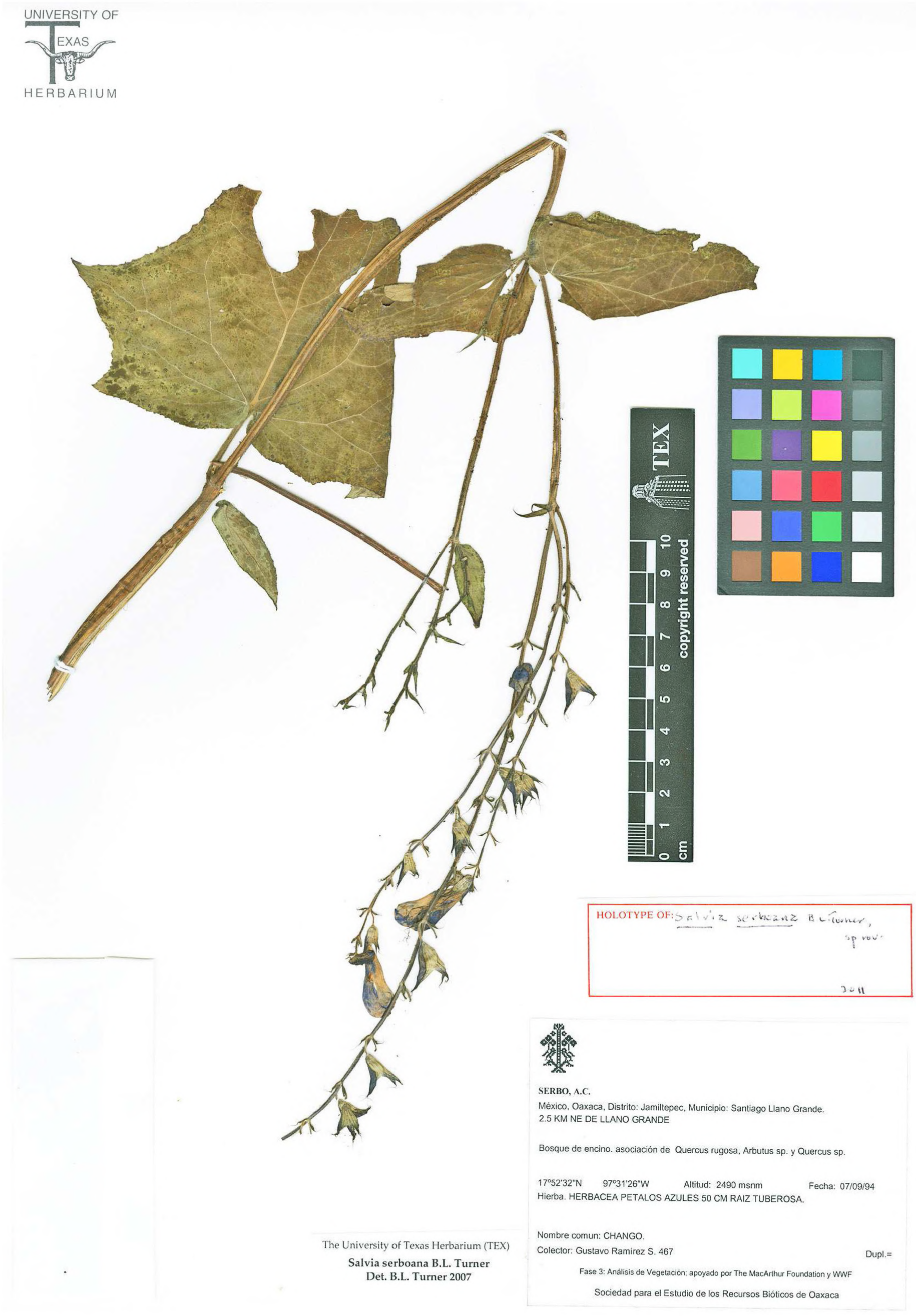
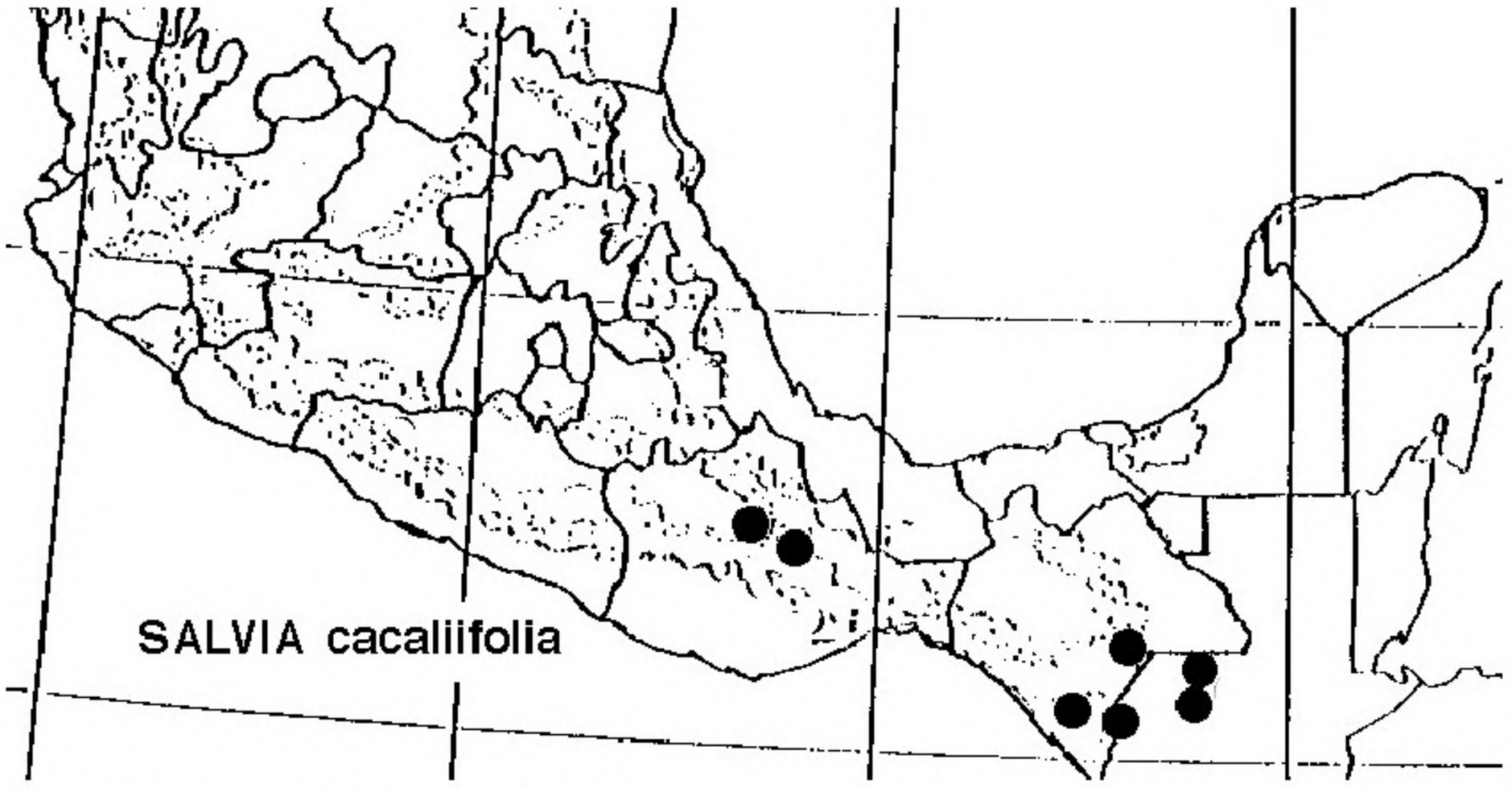
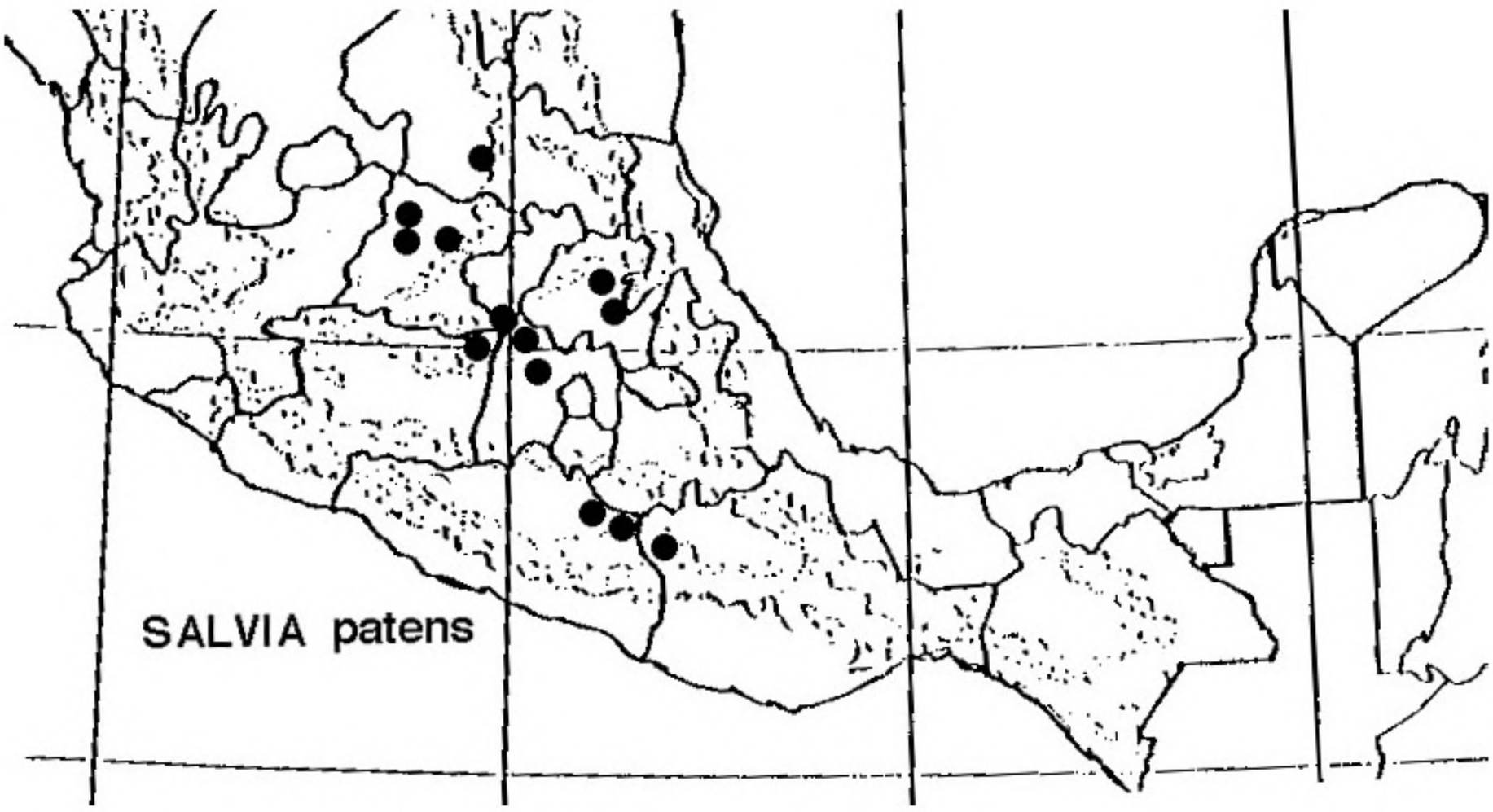

UNIVERSITY OF TEXAS HERBARIUM
TEX
cm 0 1 2 3 4 5 6 7 8 9 10
copyright reserved
HOLOTYPE OF: Salvia serboana B.L.Turner, sp. nov.
2011
SERBO, A.C.
México, Oaxaca, Distrito: Jamiltepec, Municipio: Santiago Llano Grande.
2.5 KM NE DE LLANO GRANDE
Bosque de encino. asociación de Quercus rugosa, Arbutus sp. y Quercus sp.
17°52'32"N 97°31'26"W Altitud: 2490 msnm Fecha: 07/09/94
Hierba. HERBACEA PETALOS AZULES 50 CM RAIZ TUBEROSA.
Nombre comun: CHANGO.
Colector: Gustavo Ramírez S. 467 Dupl.=
Fase 3: Análisis de Vegetación; apoyado por The MacArthur Foundation y WWF
Sociedad para el Estudio de los Recursos Bióticos de Oaxaca
The University of Texas Herbarium (TEX)
Salvia serboana B.L. Turner
Det. B.L. Turner 2007

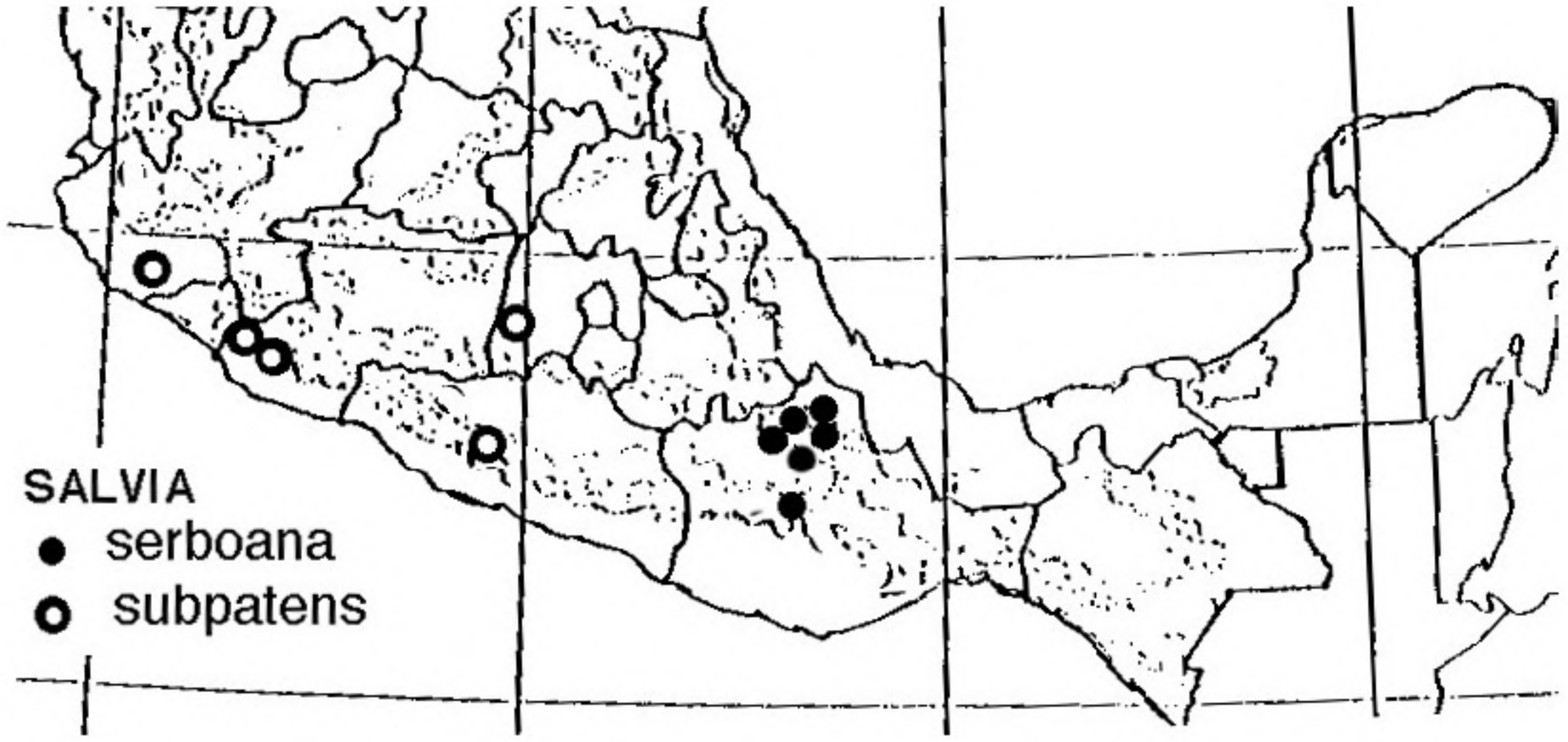
Figure 1. Holotype of *Salvia serboana*.



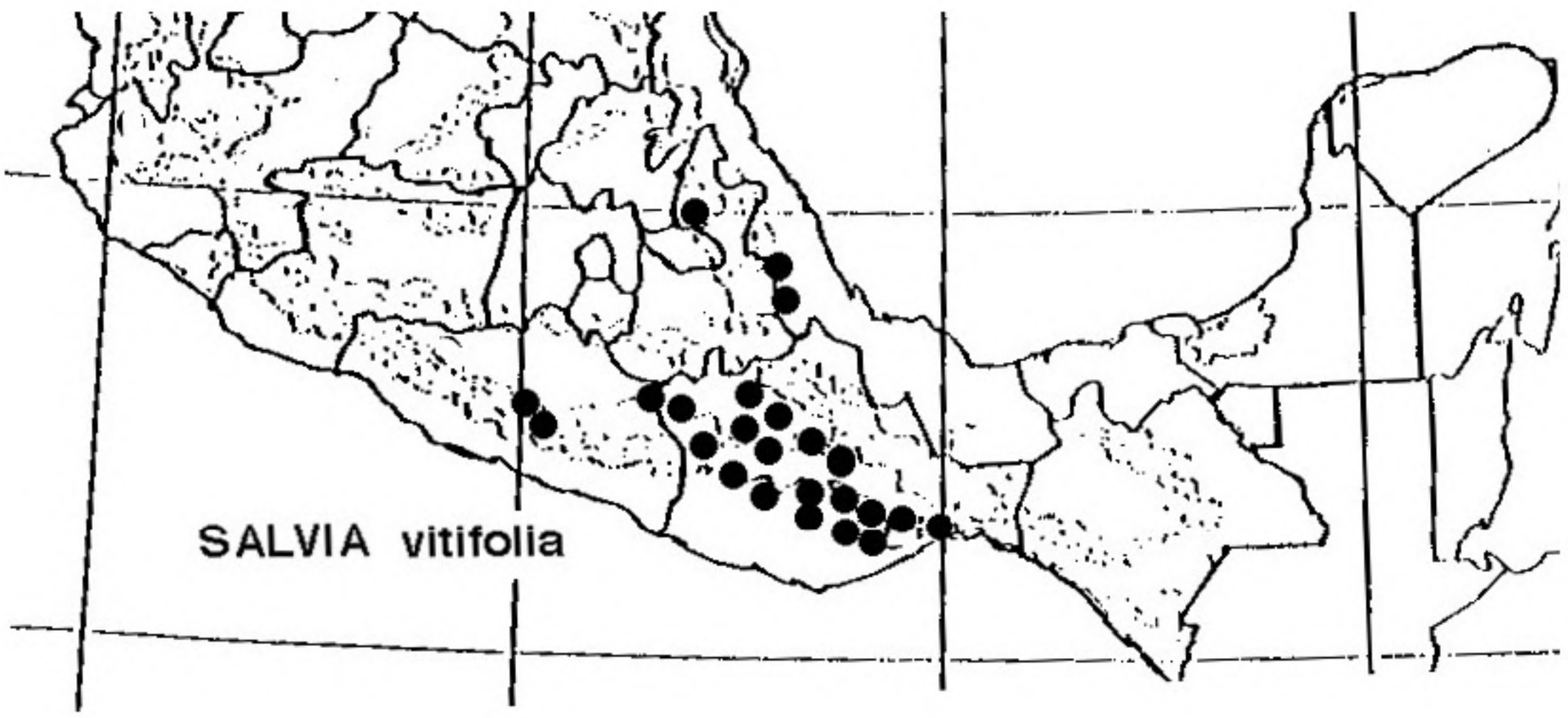
Map 1. Distribution of *Salvia cacaliifolia*.



Map 2. Distribution of *Salvia patens*.



Map 3. Distribution of *Salvia serboana* and *S. subpatens*.



Map 4. Distribution of *Salvia vitifolia*.